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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/501,564	07/14/2004	Shinkichi Ikeda	MAT-8574US	2485

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EXAMINER

LAM, DUNG LE

ART UNIT	PAPER NUMBER
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2687

DATE MAILED: 03/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/501,564	IKEDA ET AL.	
	Examiner	Art Unit	
	Dung Lam	2687	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12/15/05.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 July 2003 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim **1, 3, 20** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Iyer et al.** (US Pub. No. 2004/0203749) in view of **Flykt** (WO 0141395).

3. Regarding **claim 1**, **Iyer** teaches a method of managing mobility comprising:

determining a home agent (Home agent selection 108a, para. 21, 30,31 and 33; Fig. 2) for the mobile terminal to perform location management of the mobile terminal, wherein the mobile terminal inherently has communication with an access point apparatus arranged on a subnet and the at least one domain networks (21a - 21n of Fig. 1)

registering a main home address by the mobile terminal from a main home agent apparatus (home agent) to a server (mobile proxy device 16, Fig. 1) for managing an address the mobile terminal to have a connection to the at least one domain network (para. 28 and 29);

and the step of registering a sub-home address to the main home agent apparatus, as a care of address, for use on another domain network different in service from, when the mobile terminal moves to the other domain network wherein the sub-home address is registered as the care of address for use on the other domain network (Col. 2, para. 17).

and the step of registering a sub-home address to the main home agent apparatus, as a care of address, for use on another domain network different in service from, when the mobile terminal moves to the other domain network wherein the sub-home address is registered as the care of address for use on the other domain network (Col. 2, para. 17).

However, Iyer does not specifically teach that there is at least one domain network, which is different in service form; and that the sub-home address is registered as the care of address for use on the other domain network specifically lasts for a specified time period (Col. 2, para. 17). In an analogous art, **Flykt** teaches mobility IP for IPV4 and IPV6 subnetworks whose services can be in different forms (Col.5 ln 21-26). He further teaches the concept of "Mobility binding" which describes the association of a home address with a care-of address along with a remaining lifetime of that association (Col.3 ln 1-20, Col.2 ln 13-24). Therefore, it would have been obvious for one of ordinary skill in the art at the time of the invention to apply Iyer's teaching of home agent registration in Flykt's environments of IPV4 and IPV6 subnetworks to allow users the flexibility of roaming between the older mobile IP domain of IPV4 and newer domain of IPV6. It would have also been obvious for one of ordinary skill in the art to

further incorporate Iyer's teaching with Flykt's teaching to have a specified time limit for the Care-of-address associated with its home agent so that the system can have a more accurate status of the mobile node 's current mobility instead of keeping the same address permanently even though the node has been disconnected or out-of-reach.

4. Regarding **claim 3**, Iyer teaches a method of managing mobility according to claim 1. Iyer further teaches a step of acquiring by the mobile terminal the information about a home agent to become a candidate for the main home agent apparatus from the domain network (para. 30).

5. Regarding claim 20, Iyer teaches a mobile terminal comprising:

a main home agent selecting section (108a, Col. 2 para. 21) for selecting a main home agent apparatus in location management and for making a registration request of a home address from a server (mobile proxy device 16, para. 1 and Fig. 1), wherein the home address is assigned by the main home agent; a mobile IP processing section (Mobile IP signaling portion 108b, para. 20) for notifying a sub-home agent a care of address for use as a home address in a foreign network when it moves to a domain network different in service form using mobile IP protocol (para. 17); and an inherent home agent registering section for notifying the main home agent of the main home address and a sub-home address for use in the foreign network (para. 26).

However, Iyer does not specifically teach that there is at least one domain network, which is different in service form; and that the sub-home address is registered

as the care of address for use on the other domain network specifically lasts for a specified time period (Col. 2, para. 17). In an analogous art, **Flykt** teaches mobility IP for IPV4 and IPV6 subnetworks whose services can be in different forms (Col.5 In 21-26). He further teaches the concept of "Mobility binding" which describes the association of a home address with a care-of address along with a remaining lifetime of that association (Col.3 In 1-20, Col.2 In 13-24). Therefore, it would have been obvious for one of ordinary skill in the art at the time of the invention to apply Iyer's teaching of home agent registration in Flykt's environments of IPV4 and IPV6 subnetworks to allow users the flexibility of roaming between the older mobile IP domain of IPV4 and newer domain of IPV6. It would have also been obvious for one of ordinary skill in the art to further incorporate Iyer's teaching with Flykt's teaching to have a specified time limit for the Care-of-address associated with its home agent so that the system can have a more accurate status of the mobile node 's current mobility instead of keeping the same address permanently even though the node has been disconnected or out-of-reach.

6. Claims 2, 4, 5-19, 21-28 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iyer et al. (US Pub. No. 2004/0203749) in view of Flykt (WO 0141395) in further view of Wenzel et al. (US Publication No. 2003/0073439).

7. **Iyer and Flykt** teach all the limitations of claims **claim 2 and 21 except** for a candidate list stored in the mobile. In an analogous art, **Wenzel** teaches a step wherein in a home agent previously stored in a mobile terminal, is selected as a candidate for the main home agent (para. 44 and Fig. 6). Therefore, it would have been obvious to a

person of ordinary skill in the art at the time of the invention was made to combine Iyer's method of registering a home agent and Wenzel's teaching of selecting the candidate home agents from a list stored locally in the mobile because this combination would not only speed up but also simplify the home agent selection process since it eliminates the need in querying for candidate agents over the network (Col. 2 and 3, para. 0030).

8. **Iyer in view of Flykt and Wenzel** teach all the limitations of **claim 4 and 22**.

Wenzel further teaches a step of acquiring by the mobile terminal the information about a home agent apparatus to become a candidate for the main home agent apparatus from the domain network (Col. 4, para. 0044).

9. Regarding **claims 23-24**, they are apparatus claims corresponding to claims 2 and 4 respectively. Therefore, they are rejected for the same reasons as claims 2 and 4 respectively.

10. **Iyer in view of Flykt and Wenzel** teach all the limitations of **claims 5-7**, wherein Wenzel teaches in the home agent determining step, when the current home agent fails (primary Home Agent fails, 7 Col. 3, par. 0030), the mobile terminal selects a new main home agent from the list of other home agents. Therefore, it would have been obvious for one of ordinary skill in the art at the time of the invention was made to select a new home agent and ensure redundancy capability and enable a smooth continuation of service in the network even when the main agent has failed.

11. **Iyer in view of Flykt and Wenzel** teach all the limitations of **claims 8-10**, wherein, in the home agent determining step, the mobile terminal determines the main home

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agent apparatus from the information about a home agent apparatus based on a preference indicator of the information (ranking ordering, Col. 3, para. 36).

12. Iyer in view of Flykt and Wenzel teach all the limitations of claims 11-13, wherein in the home agent determining step, the mobile terminal determines the main home agent apparatus from the information about a home agent apparatus. However, they fail to explicitly teach that the selection of the main home agent is on the basis of an access frequency to the home agent apparatus. Nonetheless, Wenzel teaches a mechanism of distributing the load among secondary home agents (col. 3, para. 35), which implies that the frequency of assigning work among the home agents should be distributed equally to prevent over-working of one particular home agent and thus decrease the chance of a network failure. Therefore, it would have been obvious for one of ordinary skill in the art at the time of the invention was made to select a new main agent on frequency access to prevent over-loading of the network.

13. Iyer in view of Flykt and Wenzel teach all the limitations of claims **25-26**, wherein, the main home agent selecting section selects the main home agent apparatus from the home agent list stored in the home domain storing section, on the basis of a priority as one of information about a home agent apparatus (ranking ordering, Col. 3, para. 36).

14. Regarding **claims 27 and 28**, they are the corresponding method claims to the apparatus claims 9-10. They are rejected for the same reasons as 9-10.

15. **Iyer in view of Flykt and Wenzel** teach all the limitations of **claims 35** but fails to teach that when receiving a multi-encapsulated packet, a source address described in an innermost header is taken as a destination of registering location. **Flykt** further teaches a multiple-encapsulated data packet (col. 6, lines 10-25). He further teaches that IP encapsulation is known to be used by Mobile IPV4/IPV6 standard provided by IETF (col. 3, lines 21-25). Therefore it would have been obvious for one of ordinary skill in the art to combine Iyer and Wenzel's teaching of the home agent registration to also include the known in the art IP encapsulation concept to facilitate the mobile IP management.

16. **Claims 14-19 and 29-34** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Iyer et al.** (US Pub. No. 2004/0203749) in view of **Flykt** (WO 0141395) further in view of **Wenzel et al.** (US Publication No. 2003/0073439) in further view of **Heller** (US Pub. No. 2002/0147837).

17. **Iyer in view of Flykt and Wenzel** teach all the limitations of **claims 14-19** except for the registration that goes through a link layer. In an analogous art, Heller teaches a registration request step of making a request for a registration to the home agent in a domain network to be connected through a link layer of the mobile and acquired an IP address, of link layers possessed by the mobile terminal which turns into an active state, wherein, the sub-home address registering step is carried out when the

registration request is granted by the home agent apparatus (para. 018). Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to make use of the link layer as an standard means of communicating data in IP mobility management.

18. Iyer in view of Flykt and Wenzel teach all the limitations of claims 29-34 except for the registration that goes through a link layer. In an analogous art, Heller teaches the home agent registering section that makes a request to register to a sub-home agent apparatus through a link layer which inherently turns the sub-home agent from an inactive state to an active state, wherein a notification of a sub-home address is sent to the main home agent apparatus upon receiving a grant for the registration request by the sub-home agent apparatus (para. 018).

Response to Arguments

Applicant's arguments with respect to claims 1-35 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dung Lam whose telephone number is (571) 272-6497. The examiner can normally be reached on M - F 9 - 6 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lester Kincaid can be reached on (571) 272-7922. The fax phone number for the organization where this application or proceeding is assigned is (571) 272-6497.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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